REMARKS

This Amendment is in response to the non-final Office Action mailed May 30, 2003. Claims 1 to 64 were pending previously in this case. Claim 7 is being cancelled herein without prejudice or disclaimer. Claims 1, 8, 9, 11 to 20, 30, 34, 41, 46, 53, 55 to 57 and 61 are being amended herein. Claims 14 and 20 are being amended from dependent format to independent format. Accordingly, please charge Deposit Account No. 02-1818 to pay for the Two Month Extension of Time and the cost of two additional independent claims.

In the Office Action, Claims 1 to 4, 6 to 11, 13 to 15, 17 to 24, 26 to 31, 33 to 40, 42, 44 to 50, and 52 to 64 were rejected under 35 U.S.C. §102(a) as being anticipated by French Reference Fr 2 805 662 to Bourroux ("*Bourroux*"). Claims 5, 12, 16, 25, 32, 41, 43 and 51 were rejected under 35 U.S.C. §103(a) as being obvious in view of *Bourroux* and in further view of U.S. Patent No. 5,831,814 to Hamill ("*Hamill*").

Before discussing the specific claim amendments, Applicant wishes to summarize the teachings of the references used in the Office Action. *Bourroux* shows fuse terminals 9 and 12 in Fig. 1 that are joined electrically by fuse element 7. Strips 5 and 6 (presumably as best Applicant can tell without translating the text of the French specification) extend from terminals 9 and 12 to load and supply connections. Fig. 2 of *Bourroux* shows three of such terminal pairs in a single row. Because of the inline nature of the terminals 9 and 12, leads 5 and 6 and fuse element 7, it appears difficult for the fuse box housing the terminals and fuses of *Bourroux* to conveniently and compactly position multiple rows (i.e., multiple rows of Fig. 2) using the *Bourroux* configuration. More importantly, *Bourroux* does not appear to disclose, teach or suggest providing multiple rows of its terminal pairs.

Space and cost are paramount in the design of automotive type fuses and fuse blocks. Notwithstanding that the individual bodies 15 of *Bourroux* would likely prove too expensive and cumbersome to be commercially successful, it is also apparent from Figs. 1 and 2 of *Bourroux* that its inline configuration is not conducive to an array or matrix of multiple rows of terminal pairs. That is, while *Bourroux* could be used to create a long, single row of fuse terminal pairs, *Bourroux* does not appear to be configured conveniently to have a matrix or array of multiple rows of terminal pairs. Accordingly, Applicant believes that the present invention, which can be made in a long slender row or in a box-like array of rows, is advantageous with respect to *Bourroux*.

Further, it is difficult to envision how *Bourroux* would provide common bussing. One of the major advantages of the present invention is that a single strip or bus of terminals can be provided for each row or set of pairs of terminals of the present invention. *Bourroux* provides no hint or suggestion how its configuration would be modified to produce such common bussing. The Patent Office cites the *Hamill* reference to show two fuse terminals that are formed integrally. It is apparent upon reviewing *Hamill*, however, that the integral terminals are inline with one another. The *Hamill* configuration would not work with the configuration of *Bourroux*, which as shown clearly in Fig. 1, requires that inline terminals 9 and 12 be separate and not integral, provided in a strip or commonly bussed, so that the separate terminals 9 and 12 can be connected electrically by fuse element 7. The references of *Bourroux* and *Hamill* would destroy one another if one of skill in the art were to attempt to combine the two references.

Hamill is also deficient because it shows only two terminals formed integrally or connected electrically together. The present invention is advantageous because an entire row of terminal pairs can be commonly bussed as illustrated in Fig. 10 and elsewhere in the text of the present invention. Indeed, the terminals of *Hamill* appear to require separate bussing wires 152a and 152b as shown for example in Fig. 7 of *Hamill*. The common bussing of the present invention it should be appreciated eliminates the need for those wires, and frees the slots defined terminals, which are used in *Hamill* to hold the wires 152a and 152b, to hold the fuse elements. The fuse elements in turn eliminate the need to initially provide replacement fuses. When one of the fuse elements connected between terminals opens, the circuit is then reestablished with a replacement fuse. The present invention, on multiple fronts, simplifies, lightens and makes less costly fuse boxes and fuse arrangements for, e.g., automobiles.

Certain claims of the present invention have been amended to embody the distinctions between the present invention, *Hamill* and *Bourroux*, alone or in combination. For example, Claim 1 presently includes a body, a plurality of terminals fixed to and extending from at least one side of the body and a fuse element contacting at least two of the terminals. At least three pairs of the terminals are arranged in the body so as to enable a single terminal bus to supply one of the terminals of each of the pairs. *Bourroux* does not teach or suggest that a common terminal bus can be used to supply one of the terminals of each of at least three pairs of terminals. *Hamill* does not cure the deficiencies of *Bourroux*. That is, if the integral terminals in Fig. 7 of *Hamill* are taken as being commonly bussed, there is no teaching or suggestion by *Bourroux* as to how at

least one of the commonly bussed terminals is then initially fused with a non-commonly bussed terminal as required by the claim. The inline nature of the bussed or integrated terminals of *Hamill* occurs at the same location between the terminals, i.e., inline and between the terminals as does the fuse element 7 of *Bourroux*. Stated simple, the terminals of *Hamill* are bussed inline, while the terminals of *Bourroux* are fused inline. The two cannot exist together, therefore, the teachings destroy one another.

The separate bussing wires 152a and 152b of *Hamill* are not helpful to teach Claim 1 because those wires do not "supply" the terminals of at least three pairs as required by the claim. Applicant therefore respectfully submits that Claim 1 is now patentably distinct with respect to *Bourroux* and *Hamill*. Accordingly, Claims 2 to 6, and 8 to 13 that depend from Claim 1 are also in condition for allowance.

Applicants also traverse respectively any assertion that the surface mount claims, e.g., Claims 4 to 6, contain structure that is merely a design choice. For example, it is believed that varying the number of trace strands to distribute current through the different strands provides a unique method for establishing surface mount fuse elements having different current ratings. The provision of such strands is functional and not merely a choice based on design. The assertion is therefore traversed. It is not disputed that *Bourroux* and *Hamill* fail to teach or suggest surface mount structure. It is therefore respectfully asserted that Claim 4 to 6 each provide additional patentable features over *Bourroux* and *Hamill*.

There appears to be no teaching or suggestion by *Bourroux* to provide different types of fuse elements 7 having different current ratings. The fact that *Bourroux* may be capable of having such functionality, as asserted by the Office Action, does not constitute a teaching. That is, the fact that the prior art could be modified to teach the claimed invention is not relevant. What is relevant is what *Bourroux* shows, which is a single element 7 and therefore a system with a single rating. Applicnats therefore respectfully submit that Claims 9, 18 and 19 provide additional patentable features over *Bourroux* and *Hamill*, alone or in combination.

The amendments made to Claims 8, 9 and 11 to 13 are merely to conform the language of those claims with the language now appearing in Claim 1. Those amendments have not narrowed corresponding scope of the claims, nor have the amendments disclaimed any subject matter with respect to the scope of the claims as filed originally.

Claim 14 has been amended into independent form. Claim 14 highlights the distinction that the present invention has multiple rows of terminal pairs, wherein the terminals of at least two of the pairs of each of the rows are electrically connected by a fuse element. *Bourroux* appears to provide no teaching or suggestion as to how multiple rows of pair of terminals, configured according to *Bourroux*, would be provided or workable. Indeed, *Bourroux* shows that terminal pairs can be stacked in a single row but does not show that multiple pairs can be stacked in a plurality of parallel rows. To do so as stated above would appear to be cumbersome and unworkable from a spacing standpoint. And to imagine multiple rows of pairs of elements linked by fuse elements 7, wherein same is not shown by *Bourroux*, is to reconstruct the claimed invention in hindsight, which is impermissible.

Hamill does not cure the Claim 14 deficiencies of *Bourroux* due at least in part to the fact that *Hamill* does not teach or suggest providing fuse links, such as link 7 of *Bourroux* in lieu of replacement fuses. The fact that *Hamill* has multiple rows of fuse pairs does not teach o0r suggest to one how to make multiple rows of fuse pairs, which is required by the claim. And, the fact that the two references destroy each other tends, if anything, to teach away from providing multiple rows of *Bourroux* type fuses. One viewing *Hamill* infers that inline bussing is needed to have multiple fuse pair rows. *Bourroux* cannot have inline bussing because it has inline fusing. Therefore, *Bourroux* cannot have multiple rows of fuse pairs.

Applicant accordingly respectfully submits that Claim 14 and Claims 15 to 19 that depend from Claim 14 are each non-obvious and patentably distinct over *Bourroux* and *Hamill*, alone or in combination. Claims 15 to 19 have also been amended to provide language consistent with that of amended Claim 14. Applicant submits that Claims 15 and 19 are not narrowed with respect to those claims as filed originally, have not been amended to overcome the rejections in the Office Action, and disclaim no subject matter. As discussed above Claims 18 and 19 provide additional patentable distinctions.

Claim 20 has also been amended to be in independent form. Claim 20 is directed to a fuse block that includes a body and first, second and third sets of terminals positioned in the body, wherein one of the terminals from the first set is electrically connected to one of the terminals of the second and third sets by at least one fuse element. Claim 20 as amended embodies the alternative embodiment shown in Fig. 11, wherein a single terminal 150 is connected electrically via two fuses 80 to two separate terminals 50a. There is absolutely no

suggestion at least in the figures of *Bourroux* to modify the configuration shown in Fig. 1, so that a single one of the terminals 9 or 12 can be connected electrically to two other different terminals via at least one fuse element. The inline configuration of *Bourroux* appears to make such apparatus difficult to provide. Accordingly, Applicant respectfully submits that Claim 20 and Claims 21 to 29 that depend from Claim 20 are each novel, nob-obvious and patentably distinct over *Bourroux* and *Hamill*, alone or in combination.

Claim 30 is directed to a junction box having a fuse block comprising a body and a plurality of terminals fixed to and extending from at least one side of the body. At least one of the terminals has a first integral portion that contacts a fuse element, a second integral portion that receives a terminal from a replacement fuse, a third integral portion connected to a first adjacent terminal and a fourth integral portion connected to a second adjacent terminal. Claim 30 embodies each of the prior art distinctions described above, namely, that the terminal has a portion configured to connect to a fuse element and also is integrally connected to two other terminals. No reference shows that latter element. Moreover, the combination of references do not show integrally bussed terminals, wherein at least one of the terminals is connected to a fuse element instead of a replacement fuse.

Accordingly therefore respectfully submits that Claim 30 and Claims 31 to 45 that depend from Claim 30 are each in condition for allowance. Applicant also notes that Claims 34 and 41 have been amended to provided language in accordance with the amendment to Claim 30 and not to disclaim any subject matter.

Referring now to Claim 46, a terminal for a fuse block is provided. The terminal includes first portion that extends from the fuse block and contacts a fuse element. A second portion extends from the fuse block and receives a terminal of a replacement fuse. A third integral portion is provided that is connected to a first adjacent terminal. A fourth integral portion is provided that is connected to a second adjacent terminal. Claim 46 is distinguished over *Bourroux* because *Bourroux* does not teach a terminal having a portion that can connect to a fuse element, as well as a portion that can connect to a terminal of a replacement fuse, as well as a portion connected integrally to a first adjacent terminal and a portion connected integrally to a second adjacent terminal.

Hamill does not cure the deficiencies of *Bourroux* with respect to amended Claim 46 and indeed appears to destroy the teachings of *Bourroux* as discussed above. Applicant therefore

respectfully submits that Claim 46 and Claims 47 to 56 that depend from Claim 46 are each novel, non-obvious and patently distinct over *Bourroux* and *Hamill*, alone or in combination. Applicant notes that Claims 53, 55 and 56 have been amended for purposes of language clarification and not to overcome the references cited, to narrow the claims or disclaim any subject matter.

Claim 57 is directed to a fuse protection method. Claim 57 includes the steps of providing a body, a plurality of terminals affixed to and extending from at least one side of the body, wherein at least three terminals are formed integrally. The method includes causing a fuse element to contact at least two non-integral terminals. Also, the method includes providing a location on the terminals for receiving a terminal replacement fuse. It should be appreciated from the foregoing discussion, that *Bourroux* and *Hamill*, alone or in combination, do not teach the elements of Claim 57 as amended. Accordingly, Applicant respectfully submits that Claim 57 as well as Claims 58 to 62 that depend from Claim 57 are each patentable at this time. As before, the amendment to dependent Claim 61 has been made for purposes of clarification and not to disclaim any subject matter.

Applicant respectfully traverses the rejection of the Claim 63 in view of *Bourroux*. One of the advantages of the present invention is that the lighter, smaller and more compact fuse boxes of the present invention may make it more advantageous to the automobile designers to provide localized fuse boxes, which in the past have been disfavored for space purposes. Such localized fuse boxes would cut down on the amount of wiring that would need to be run from a single fuse box to multiple loads throughout the vehicle. Claim 63 highlights the advantage that only the power wires have to be fed remotely to the localized fuse box, wherein shorter load wires are then provided from the localized fuse box to the localized loads.

Applicant does not see where the Office Action has addressed Claim 63 specifically. Moreover, Applicant asserts that there does not appear to be any teaching or suggestion in *Bourroux* to provide such a method. Certainly, none has been cited in the Office Action. Accordingly, Applicant respectfully submits that Claim 63 and Claim 64 that depends from Claim 63 are each novel, non-obvious and patentably distinct over *Bourroux*.

For the foregoing reasons, Applicant respectfully requests reconsideration of his patent application and earnestly solicits an early allowance of same.

Respectfully submitted,

BELL, BOYD & LLOYD LLC

BY 

Robert W. Connors
Reg. No. 46,639
P.O. Box 1135
Chicago, Illinois 60690-1135
Phone: (312) 807-4214

Dated: October 30, 2003